

REMARKS/ARGUMENTS

Applicant has carefully reviewed and considered the Office Action mailed on March 18, 2005, and the references cited therein.

Claims 1, 8, 10, 17, and 19 are amended, no claims are canceled, or added. Claims 1-20 are pending in this application.

§103 Rejection of the Claims

Claims 1-4, 6, 8-12, 15, and 17-19

Claims 1-4, 6, 8-13, 15, and 17-19 were rejected under 35 USC §103(a) as being unpatentable over Amano, et al., (U.S. Patent No. 6,100,996) in view of Hirst (U.S. Patent No. 5,655,174) and Nakano (U.S. Patent No. 5,913,097). Applicant respectfully traverses the rejection as follows.

Applicant first gratefully acknowledges that, in the March 18, 2005, Office Action, the Examiner found the arguments to be persuasive that were made in the Response filed November 22, 2004. That is, the previous references did not describe “a printer system that includes a first communication interface configured to receive a humidity value from a toner cartridge,” as recited in claim 1.

However, the claims were newly rejected in light of the Nakano reference, which the Examiner asserts teaches that “a sensor is placed on the toner cartridge itself, therefore the sensed readings would be sent from the toner cartridge body to the system controller.”

Upon review of the Nakano reference, however, Applicant found that the text to which the Examiner referred (column 5, lines 62-64) recites:

In order to detect the residual toner level in the toner cartridge 30, a toner sensor 55 is provided in the lower portion outside of the toner cartridge 30.

The text goes on to recite in lines 64-66:

The toner sensor detects the residual level of toner existing at a toner detection point 240 . . . in the toner cartridge 30.

Applicant respectfully notes that the sensor 55 only detects the remaining amount of toner in the cartridge. This is an internal measurement of the status of a printer component and has no effect on formatting of the print media, e.g., adjusting the dither matrix.

Moreover, there is no teaching or suggestion within Nakano to electronically control the printing process. In Nakano, detection of low toner level by the sensor merely results in agitation and stirring of residual toner within the same cartridge. Thus, the sensor in the Nakano reference is part of a self-enclosed system for mechanically affecting functionality of the toner cartridge.

In contrast, Applicant independent claim 1, as amended, expressly recites:

a first communication interface configured to receive a humidity value from a toner cartridge;
printer components configured to electronically control printing operation based on the humidity value.

That is, with Applicant's invention a humidity value is received by an interface from the toner cartridge and printer components are configured to electronically control printing based on the humidity value. Support for the same is found on page 6, lines 8-9, of the Applicant's specification. Therein the text recites that "[p]rinter components may include a processor that retrieves and executes instructions that are stored on storage media" after receiving the humidity value through the interface.

Applicant respectfully submits that there is no motivation provided from within the Nakano reference to combine the ink level detection, mechanical methodology with the external environmental issues addressed in Amano and Hirst. That is, Applicant respectfully submits that one of ordinary skill in the art dealing with mechanical, self-contained cartridge issues within Nakano would not have looked to art relating to external environment and printing control issues within Amano and Hirst. Likewise, one of ordinary skill in the art dealing with external environment and printing control issues within Amano and Hirst would not have been motivated to look at the mechanical, self-contained cartridge issues within Nakano. As such, the Applicant respectfully submits that the present combination is non-obvious.

Applicant's independent claims 10 and 19, as amended, recite similar distinguishing language. For example, independent claim 10 recites:

receiving a humidity value form a toner cartridge; and
electronically controlling printing operation based on the humidity value.

And independent claim 19, recites:

a humidity sensor configured to detect a humidity level and generate a humidity value that corresponds to the humidity level; and

a communication interface configured to transfer the humidity value from the humidity sensor to the printer system to electronically control a printing operation.

For the reasons provided above, Applicant respectfully submits that there is no motivation to combine the Nakano reference with the references of Amano and Hirst. In view of the same, Applicant respectfully requests reconsideration and withdrawal of the 103 rejection of independent claim 1, 10, and 19, as well as all claims which depend therefrom.

Claims 5, 7, 14, 16, and 20

Claims 5, 7, 14, 16, and 20 were rejected under 35 USC §103(a) as being unpatentable over Amano, et al., (U.S. Patent No. 6,100,996) in view of Hirst (U.S. Patent No. 5,655,174) and Nakano (U.S. Patent No. 5,913,097) as applied to claims 1-4, 6, 8-13, 15, and 17-19, and further in view of Allen, et al. (U.S. Patent No. 6,268, 094).

The Allen reference is asserted by the Examiner to illustrate the relationship of a toner humidity level to a response curve. From the Applicant's review of the Allen reference, the reference appears directed toward a photosensitive media cartridge, separate from the image forming device (i.e., toner cartridge), that includes an ambient condition sensor. As such, Allen only addresses an ambient sensor separate from the toner cartridge and thus does not cure the deficiencies discussed above in connection with the Amano, Hirst, and Nakano combination.

For the reasons provided above, Applicant believes that independent claims 1, 10, and 19, as amended, are in condition for allowance, even in view of Allen. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 103 rejections for claims 5, 7, 14, 16, and 20, which depend therefrom.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney Gregg W. Wisdom at (360) 212-8052 to facilitate prosecution of this matter.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

CERTIFICATE UNDER 37 CFR §1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS AMENDMENT Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on this 25 day of April, 2005.

Sarah L. Reinhard
Name
Sarah L. Reinhard
Signature:

Respectfully Submitted,
Wen-Li Su, et al.

By their Representatives,
BROOKS & CAMERON, PLLC
1221 Nicollet Avenue, Suite 500
Minneapolis, MN 55403

By: Edward J. Brooks III
Reg. No. 40,925

Date: 4/25/2005